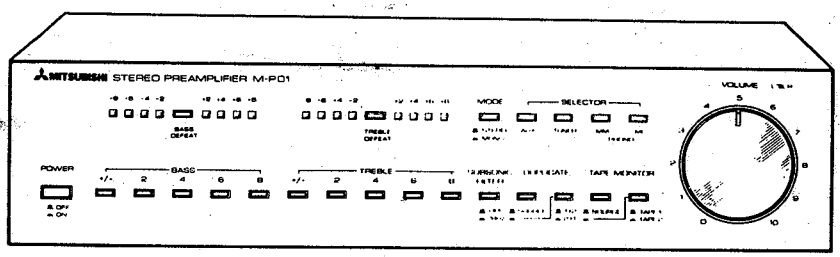
MITSUBISHI
AUDIO SYSTEMS

SERVICE MANUAL

STEREO PREAMPLIFIER

MODEL M-P01



CONTENTS

SPECIFICATIONS 3
FRONT PANEL 4
REAR PANEL 4
PRINTED CIRCUIT BOARD 5
WIRING 9
SCHEMATIC DIAGRAM 11
SERVICE PARTS LIST 13

MITSUBISHI ELECTRIC CORPORATION

SPECIFICATIONS

Input Sensitivity/Impedance . .PHONO MC . . 0.1 mV/10 ohms
PHONO MM . 2.3 mV/50 kohms/100pF
TUNER, AUX, PLAY 1, PLAY 2 . 150 mV/50 k ohms

Output Level/Impedance . . . .OUTPUT . 1V (rated output)/600 ohms 18 (maximum output)
REC 1, REC 2 150mV/600 ohms

Equivalent Input Noise Level (IHF, A network) . .PHONO MC . . . . .–157 dB (V) (47 ohms terminated)
PHONO MM . . . . . –136 dB (V) (closed circuit)
TUNER, AUX, PLAY 1, PLAY2 . . –126 dB (V) (closed circuit)

Signal to Noise Ratio (IHF, A network, at rated output) . . . . . .PHONO MC . . . . . .77 dB (47 ohms terminated)
PHONO MM. . . . . .48 dB (closed circuit)
90 dB (10mV input, closed circuit)
TUNER, AUX, PLAY 1, PLAY 2 . . . . .110 dB (closed circuit)

Signal to Noise Ratio (DIN) . . .PHONO MC . . . . . .72 dB (47 ohms terminated)
PHONO MM. . . . . .106 dB (2.2 kohms terminated)
TUNER, AUX, PLAY 1, PLAY 2 . . . . .106 dB (closed circuit)
92 dB (47 kohms/250 pF terminated)

Total Harmonic Distortion (at rated output attenuator) –20 dB from 20Hz to 20kHz) . . .PHONO MC 0.005%
PHONO MM. 0.003%
TUNER, PLAY 1, PLAY 2. . . . . 0 ∿ 0.5 dB (from 10 Hz to 100 kHz)

Tone Control . . . . . .BASS . . ±2,4,6,8, dB at 100 Hz
TREBLE ±2,4,6,8, dB at 10 kHz

Subsonic Filter . . . . . 18 Hz (–6 dB/oct)

Phono Overload Level (at 1kHz with 0.1% THD) . . . . .PHONO MC . . . . . 12 mV
PHONO MM. . . . . 290 mV

Power Consumption. . . . . .18 W

Dimensions (W x H x D) . . . . . 270 x 70 x 247 mm (10-5/8" x 2-3/4" x 9-3/4")

Weight. . . . . .3.2 kg (7 lbs)

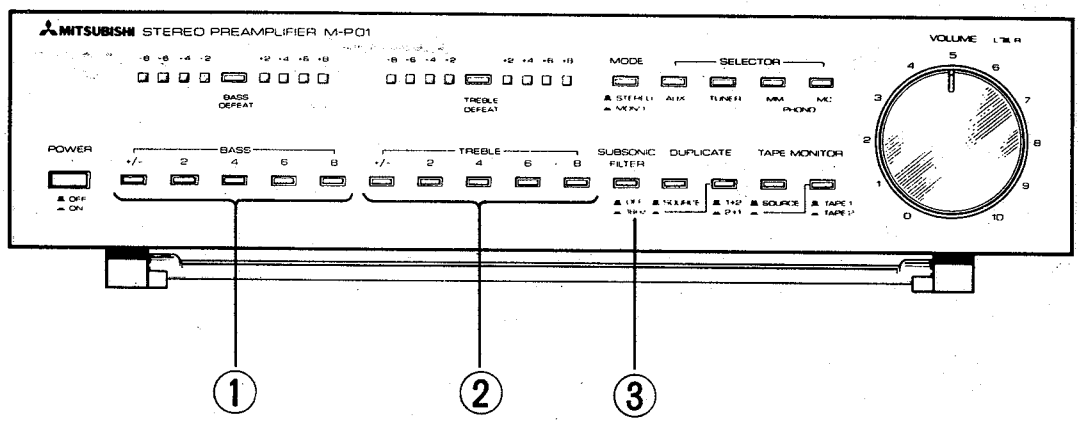
* Design and specifications are subject to change without notice for improvement.

FRONT PANEL

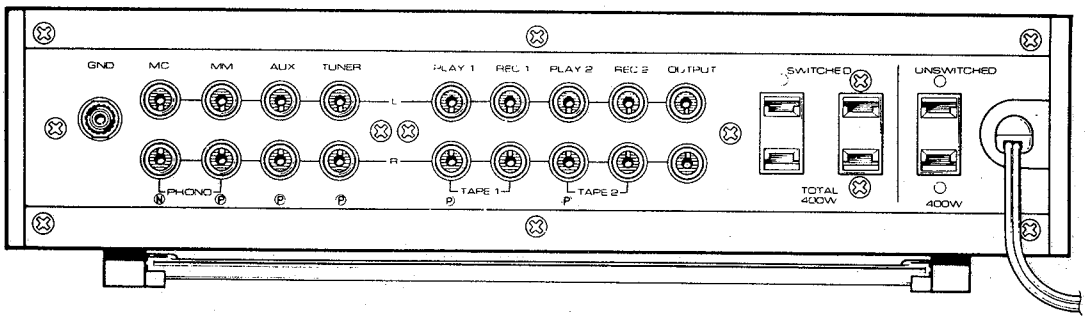
① BASS TONE CONTROL switches
These control the bass tone. They do not work when the BASS DEFEAT switch is on.

② TREBLE TONE CONTROL switches
These control the treble tone. They do not work when the TREBLE DEFEAT switch is on.

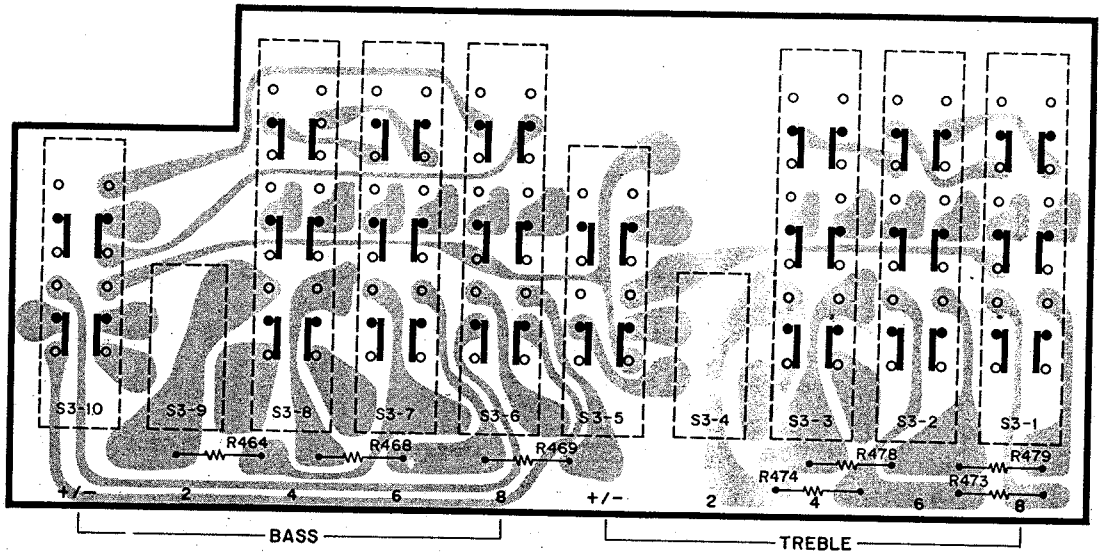
③ SUBSONIC FILTER
This switch helps to suppress the in audible ultra-low-range noise generated by warped records. It also prevents distortion and the speakers from being damaged.

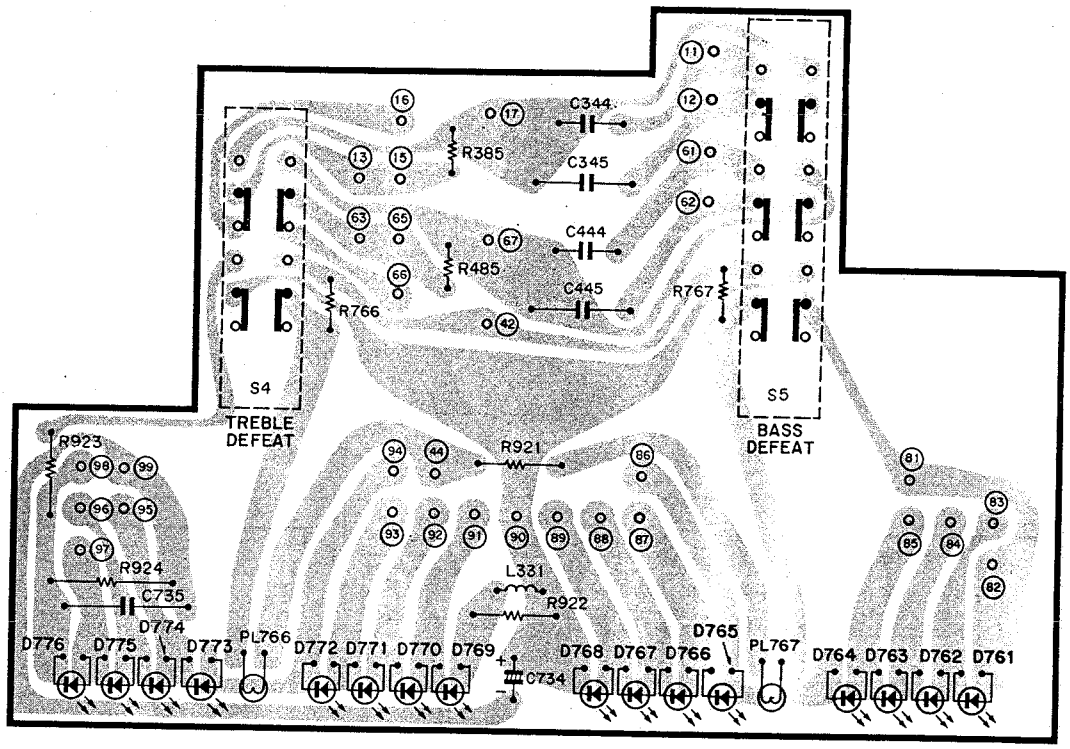


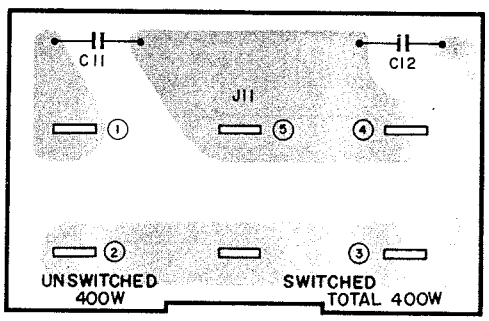
REAR PANEL

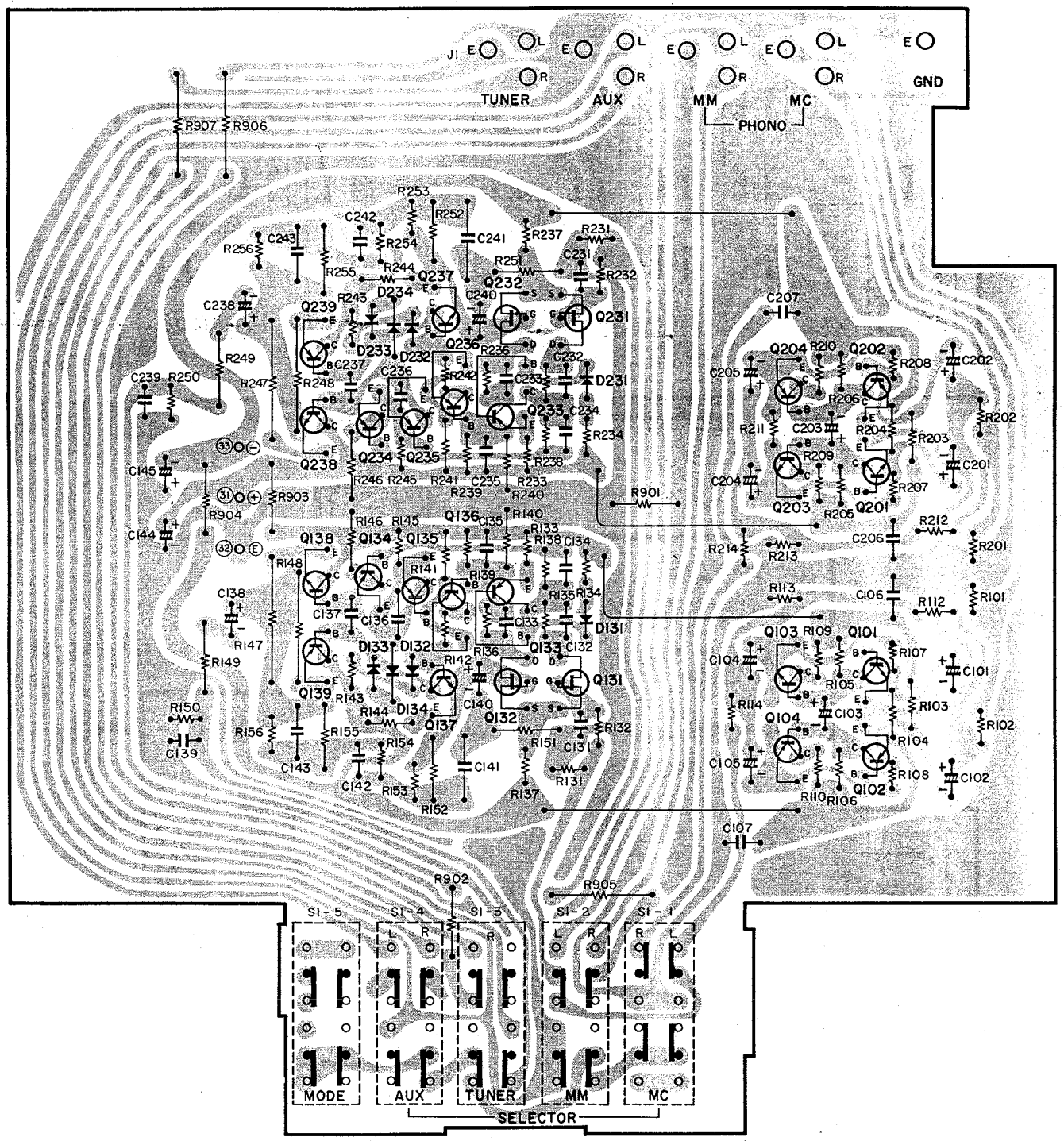


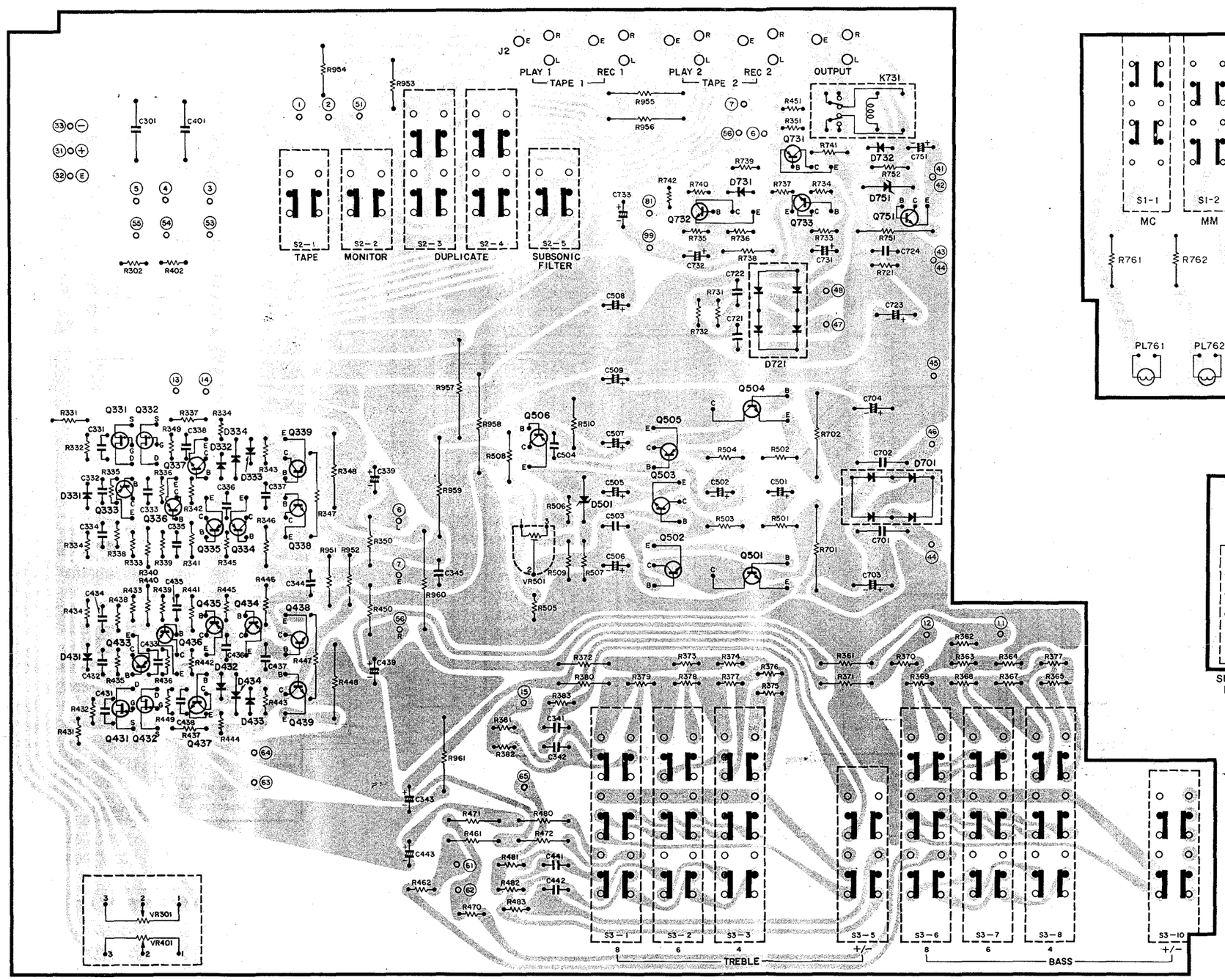
PRINTED CIRCUIT BOARD

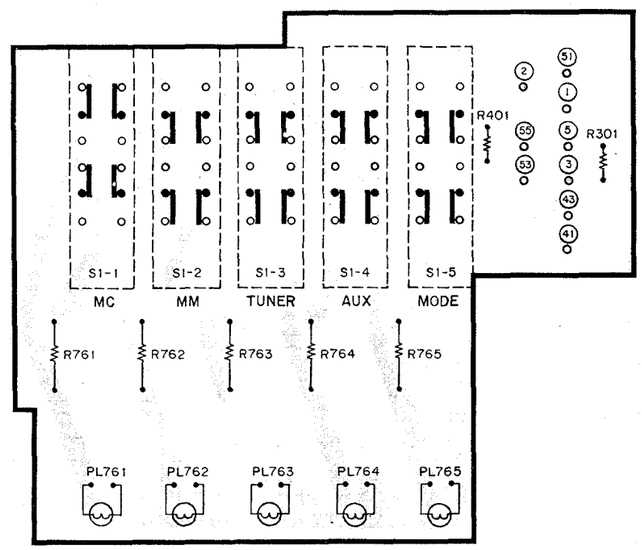


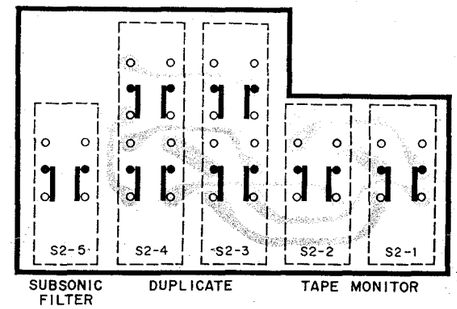





J1
TUNER
AUX
MM
MC
PHONO
GND
SELECTOR
MODE
AUX
TUNER
MM
MC

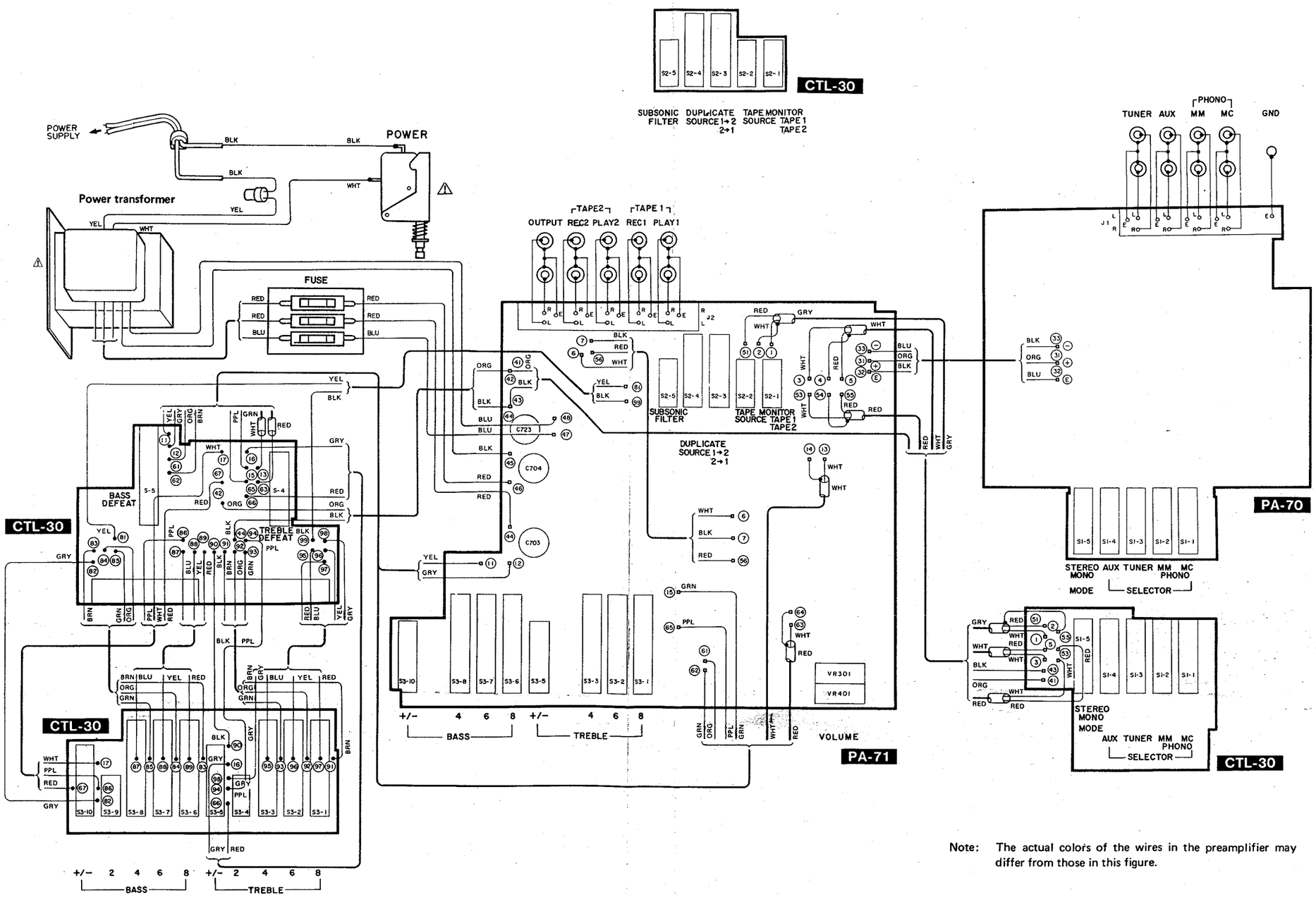

J2
PLAY 1
TAPE 1
REC 1
PLAY 2
TAPE 2
REC 2
OUTPUT
S2-1 TAPE
S2-2 MONITOR
S2-3 DUPLICATE
S2-4
S2-5 SUBSONIC FILTER
K731
D721
D701
D501
VR501
VR301
VR401
TREBLE
BASS
S3-1
S3-2
S3-3
S3-5
S3-6
S3-7
S3-8
S3-10


S1-1 MC
S1-2 MM
S1-3 TUNER
S1-4 AUX
S1-5 MODE
PL761
PL762
PL763
PL764
PL765


S2-5 SUBSONIC FILTER
S2-4 DUPLICATE
S2-3
S2-2 TAPE MONITOR
S2-1

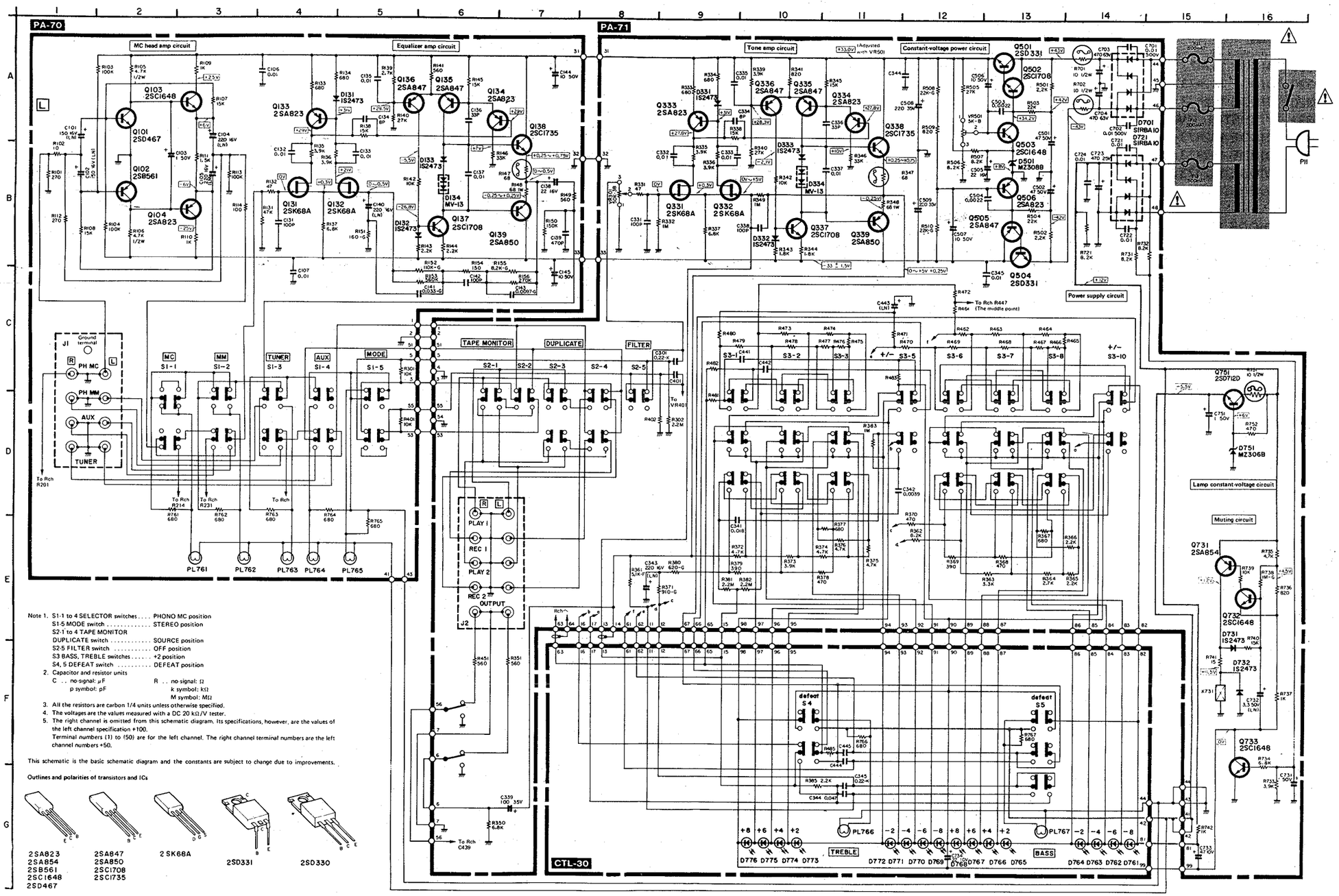
M-P01 M-P01

WIRING SCHEMATIC



Note: The actual colors of the wires in the preamplifier may differ from those in this figure.

SCHEMATIC DIAGRAM



Note 1. S1-1 to 4 SELECTOR switches .... PHONO MC position
S1-5 MODE switch ..... STEREO position
S2-1 to 4 TAPE MONITOR
DUPLICATE switch ..... SOURCE position
S2-5 FILTER switch ..... OFF position
S3 BASS, TREBLE switches ..... +2 position
S4, 5 DEFEAT switch ..... DEFEAT position

2. Capacitor and resistor units
C .. no-signal: μF
p symbol: pF
R ... no-signal: Ω
k symbol: kΩ
M symbol: MΩ

3. All the resistors are carbon 1/4 units unless otherwise specified.
4. The voltages are the values measured with a DC 20 kΩ/V tester.
5. The right channel is omitted from this schematic diagram. Its specifications, however, are the values of the left channel specification +100.
Terminal numbers (1) to (50) are for the left channel. The right channel terminal numbers are the left channel numbers +50.

This schematic is the basic schematic diagram and the constants are subject to change due to improvements.

Outlines and polarities of transistors and ICs

2SA823 2SA854 2SB561 2SC1648 2SD467 | 2SA847 2SA850 2SC1708 2SC1735 | 2SK68A | 2SD331 | 2SD330

NOTE: ⚠ and ⚠ marks components on Parts list are for performance of this unit, replase them, uses safety critical components or designed component as specified.

SERVICE PARTS LIST

NOTE: ⚠ and ▓▓ marked components on Parts list have special characteristics to keep safety performance of this unit. When replacing any of these parts, be sure to use only specified parts.

Symbol No.	Parts No.	Description
Diodes		
D131	M07060320	DIODE 1S2473
D132	M07060320	DIODE 1S2473
D133	M07060320	DIODE 1S2473
D134	M04091331	VARISTOR MV–13
D231	M07060320	DIODE 1S2473
D232	M07060320	DIODE 1S2473
D233	M07060320	DIODE 1S2473
D234	M04091331	VARISTOR MV–13
D331	M07060320	DIODE 1S2473
D332	M07060320	DIODE 1S2473
D333	M07060320	DIODE 1S2473
D334	M04091331	VARISTOR MV–13
D431	M07060320	DIODE 1S2473
D432	M07060320	DIODE 1S2473
D433	M07060320	DIODE 1S2473
D434	M04091331	VARISTOR MV–13
D501	M07133322	DIODE MZ308
D601	M07133322	DIODE MZ308
D701	M07151320	DIODE S1RBA10
D721	M07151320	DIODE S1RBA10
D731	M07060320	DIODE 1S2473
D732	M07060320	DIODE 1S2473
D751	M05129320	DIODE MZ306
D761	M05129321	LED
D762	M05129321	LED
D763	M05129321	LED
D764	M05129321	LED
D765	M05129321	LED
D766	M05129321	LED
D767	M05129321	LED
D768	M05129321	LED
D769	M05129321	LED
D770	M05129321	LED
D771	M05129321	LED
D772	M05129321	LED
D773	M05129321	LED
D774	M05129321	LED
D775	M05129321	LED
D776	M05129321	LED
Transistors		
Q101	M07215303	2SD467
Q102	M07215304	2SB561
Q103	M05104310	2SC1648
Q104	M05104312	2SA823
Q131	M07139304	2SK68A
Q132	M07139304	2SK68A
Q133	M05104312	2SA823
Q134	M05104312	2SA823
Q135	M07140303	2SA847
Q136	M07140303	2SA847
Q137	M07113310	2SC1708
Q138	M07128303	2SC1735
Q139	M07133304	2SA850
Q201	M07215303	2SD467
Q202	M07215304	2SB561
Q203	M05104310	2SC1648
Q204	M05104312	2SA823
Q231	M07139304	2SK68A
Q232	M07139304	2SK68A
Q233	M05104312	2SA823
Q234	M05104312	2SA823
Q235	M07140303	2SA847
Q236	M07140303	2SA847
Q237	M07113310	2SC1708
Q238	M07128303	2SC1735
Q239	M07133304	2SA850
Q331	M07139304	2SK68A
Q332	M07139304	2SK68A
Q333	M05104312	2SA823
Q334	M05104312	2SA823
Q335	M07140303	2SA847
Q336	M07140303	2SA847
Q337	M07113310	2SC1708
Q338	M07128303	2SC1735
Q339	M07133304	2SA850
Q431	M07139304	2SK68A
Q432	M07139304	2SK68A
Q433	M05104312	2SA823
Q434	M05104312	2SA823
Q435	M07140303	2SA847
Q436	M07140303	2SA847
Q437	M07113310	2SC1708
Q438	M07128303	2SC1735
Q439	M07133304	2SA850
Q501	M07366303	2SD331
Q502	M07113310	2SC1708
Q503	M05104310	2SC1648
Q504	M07366303	2SD331
Q505	M07140303	2SA847
Q506	M05104312	2SA823
Q601	M07366303	2SD331
Q602	M07113310	2SC1708
Q603	M05104310	2SC1648
Q604	M07366303	2SD331
Q605	M07140303	2SA847
Q606	M05104312	2SA823
Q731	M07137308	2SA854
Q732	M05104310	2SC1648
Q733	M05104310	2SC1648
Q751	M07413303	2SD712
Fuse Resistors		
R147	M07215416	1/4 W68–J
R247	M07215416	1/4 W68–J
R347	M07215416	1/4 W68–J
R447	M07215416	1/4 W68–J
R701	M07133420	1/2 W10–J
R702	M07133420	1/2 W10–J
Switches		
S1	M07366450	PUSH(SELECTOR, MODE)
S2	M07366452	PUSH(FILTER,DUPLICATE TAPE MONITOR)
S3	M07366451	PUSH (TREBLE, BASS)
S4	M07366454	PUSH (TREBLE DEFEAT)
S5	M07366453	PUSH (BASS DEFEAT)
S11	M07357450	PUSH (POWER) ⚠
Lamps		
PL761	M07366250	(GREEN)
PL762	M07366250	(GREEN)
PL763	M07366250	(GREEN)
PL764	M07366250	(GREEN)
PL765	M07366251	(ORANGE)
PL766	M07366250	(GREEN)
PL767	M07366250	(GREEN)
Miscellaneous		
K731	M07215465	RELAY
T11	M07439549	POWER TRANSFORMER ⚠
(VR301 VR401)	M07366400	VARIABLE RESISTOR
F11	M05152490	FUSE 500MA SEMKO
F12	M05152490	FUSE 500MA SEMKO ⚠
F13	M05152490	FUSE 500MA SEMKO
	M07366210	KNOB (VOLUME)
	M07366212	KNOB (TREBLE, BASS)
	M05147120	KNOB (POWER)
	M07366213	KNOB (FILTER, DUPLICATE TAPE MONITOR)